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September 19, 1994

Mr. William F. Caton
Acting Secretary
Federal Communications Commission
1919 M Street, N.W. Room 222
Washington, D.C. 20554

Ex Parte

Re: PR Docket No. 93-61

Dear Mr. Caton:

Pursuant to Section 1.1206 of the Commission's Rules, this is to notify you that representatives of the Utilities Telecommunications Council (UTC) and Metricom, Inc. met on the afternoon of Friday, September 16, 1994, with the Chief of the Field Operations Bureau and her staff to discuss the issues in PR Docket No. 93-61 relating to the use of the 902-928 MHz band and the authorization of Automatic Vehicle Monitoring (AVM) systems in that band.

UTC summarized its written comments in this docket, noting the detrimental impact on electric, gas and water utilities if Part 15 devices, such as automatic meter reading and utility distribution automation/demand side management (DA/DSM) systems, are disrupted by the expanded operation of AVM systems. In addition to summarizing its previously-filed written comments, Metricom made the attached written presentation relating to its particular DA/DSM technology.

Attending the meeting on behalf of UTC was its General Counsel, Jeffrey Sheldon; attending on behalf of Metricom were Gary Green, Chief Operating Officer and Michael G. Pettus, Director of Engineering; and Henry Rivera and Larry Solomon, counsel to Metricom.

An original and one copy of this filing are being submitted for inclusion in the docket.

Should any questions arise concerning this notice, please let me know.

Very truly yours,

Jeffrey L. Sheldon
General Counsel

Attachments

cc (w/o enc.):

Beverly G. Baker, FCC
Kenneth R. Nichols, FCC

Part 15 Perspectives on AVM/LMS Proceeding

Metricom, Inc.

September 16, 1994

Staff Proposal

Non-Interference Presumption:

- Generally acceptable to Part 15 community*
- Disagreement is over thresholds
  - Antenna height
  - Effective radiated power
  - Field disturbance sensors
- Note: Non-functional if rebuttable

*assuming no wide-band LMS forward links

Staff Proposal

Threshold Issues:

- Makes Part 15 resemble licensed service
  - Each antenna location must be identified, scrutinized
  - Results in increased cost to consumers
- Imposes significant enforcement and legal burdens
  - Which specific device is causing interference?
  - House-to-house searches?

Staff Proposal

Height Restrictions Are Technically Meaningless

- Fail to consider terrain and structures
  - relative height of interferers
- LMS receivers located and optimized to receive from street-level and in-building LMS transponders

Staff Proposal

Height Restrictions Devastating To:

- Metricom
- Ademco
- Cylink
- Tetherless Access
- CellNet
- Many others
- Future Part 15 development

Staff Proposal

Height Restrictions Also Devastating to Part 15 Users:

- Southern California Edison
  - Voltage conservation saves approximately 1 billion kWh per year
  - Yields $40 million annual savings to ratepayers
  - Reduces fuel consumption at generation plants
  - Additional benefits include outage detection and remote switching
- Requires at least 30,000 radio network
  - More than 6,000 installed at SCE to date

Staff Proposal

Proposed Thresholds Change Part 15 Rules:

- No FCC rule, order or discussion limits Part 15 device location
- Part 15 antennas above 5 meters do not violate any FCC rule
- Automatic thresholds are inconsistent with hierarchy rules
- Automatic thresholds are not legally sustainable

Staff Proposal

Height Restrictions Impermissibly Change Part 15 Rules.

- Beyond scope of proceeding (see Erratum)
- Arbitrarily single out a class of Part 15 devices
- Will force Part 15 devices out of band
- Discourages further development of Part 15 devices

Field Disturbance Sensors:

Field Disturbance Sensors:

- Not a threshold
- Not technically meaningful
- Arbitrarily singles out a class of Part 15 devices

Staff Proposal

Effectively concentrates Part 15 operations into 14 MHz or possibly 4 MHz:

- Some Part 15 systems designed to require more than 14 MHz
  - Part 15.247 rules require spreading
- Reduces opportunity of all systems to avoid interference
- Protected LMS would reduce useable Part 15 spectrum by nearly 50%

Staff Proposal

Interference to Part 15 Ignored:

- LMS will increase interference to Part 15
  - Increased *new* traffic in band
- High-power, wideband forward links are especially troublesome
  - Affects all other users of band significantly
  - Not necessary or efficient for locating services

Staff Proposal

A change of this magnitude to the original NPRM requires formal notice and comment.

Part 15 Community Proposal

Interference -- A Key Issue:

- Part 15 and LMS will interfere with each other
- Hard data and field testing support this
- Hierarchical approach to solving interference issues will present enforcement nightmare
- Extent of interference will ultimately depend on Part 15 and LMS market penetration

Part 15 Community Proposal

Forward Link Interference:

- Wideband forward links should not be permitted
  - Will interfere with most users of band
  - Likely to limit Part 15 operation to 4 MHz
  - Inefficient and not functionally necessary
- Move narrowband forward links to upper edge of the band
  - Reduces front-end interference potential
  - Close to paging channels in 930 MHz area

Part 15 Community Proposal

Reverse Link Interference:

- Presumption of non-interference to LMS receivers
- No Part 15 thresholds
- Power and duty cycle limits must be developed for LMS reverse links

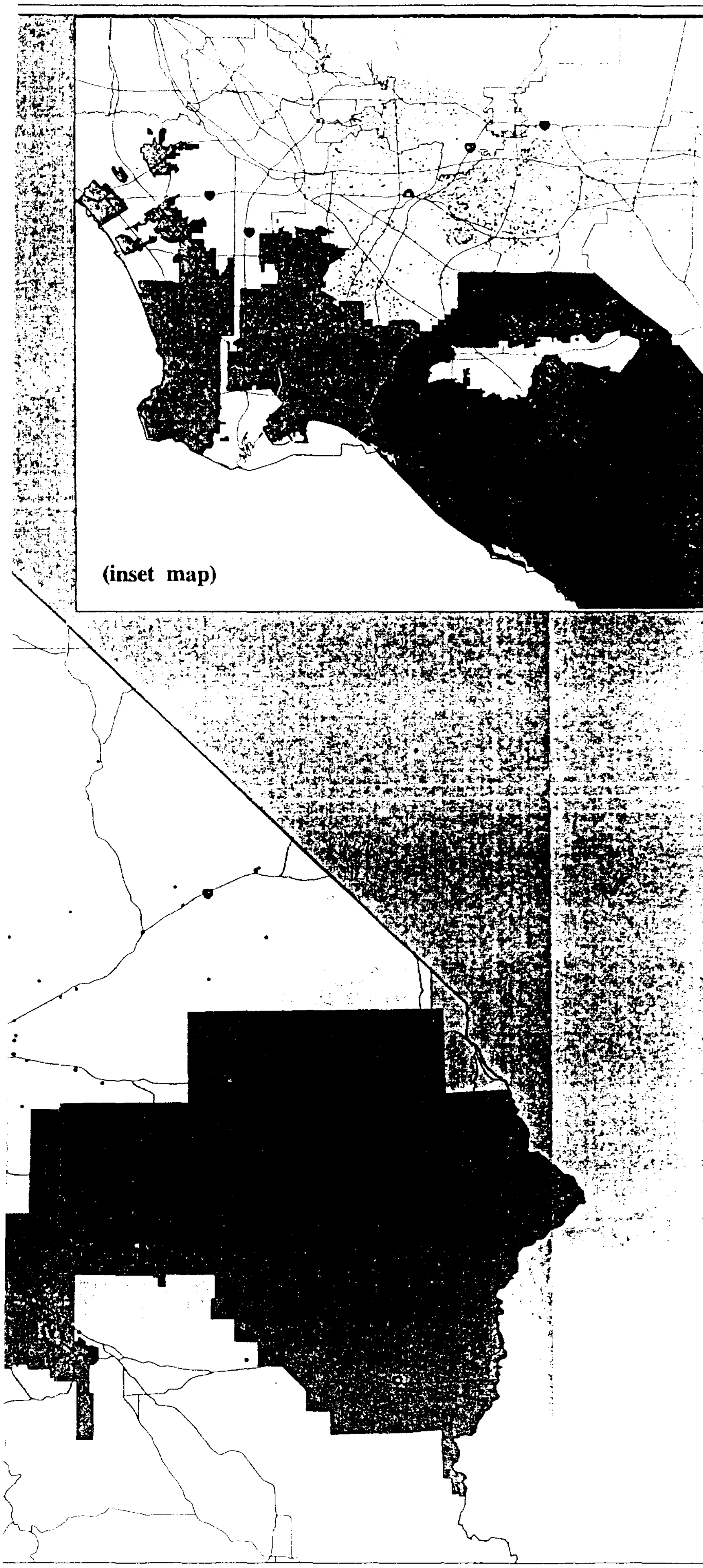
Part 15 Community Proposal

A True Compromise:

- Permits LMS to be established as a new service
  - Initial position was to maintain the *status quo*
- Requires Part 15 to accept significantly more interference
- Permits Part 15 to continue to operate
- Requires development of best technology
- Encourages cooperation between Part 15 and LMS

NETCOMM FIELD TESTS – NetComm, Edison's new Network Communication system, is currently linking more than 1000 Edison Valencia-area customers' new all-electronic meters to the utility's computers via a communications network of high-frequency packet switching radios located atop street lights.

Southern California Edison



NetComm
Packet Radio Network

LEGEND

- NetComm Packet Radios
- SCE Substations

- Desert Springs Region
- Inland Region
- North Coast Region
- Northern Region
- Orange County Region
- San Gabriel Region
- Southern Region
- Non-Edison

- Freeway
- State Boundary
- SCE District Boundary

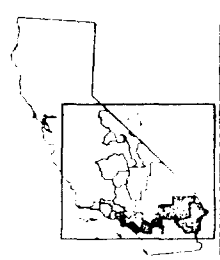
- Interstate Highways
- California Highways
- U.S. Highways

Total Number of Radios:

5,268

As of: June 23, 1994

INDEX MAP OF CALIFORNIA



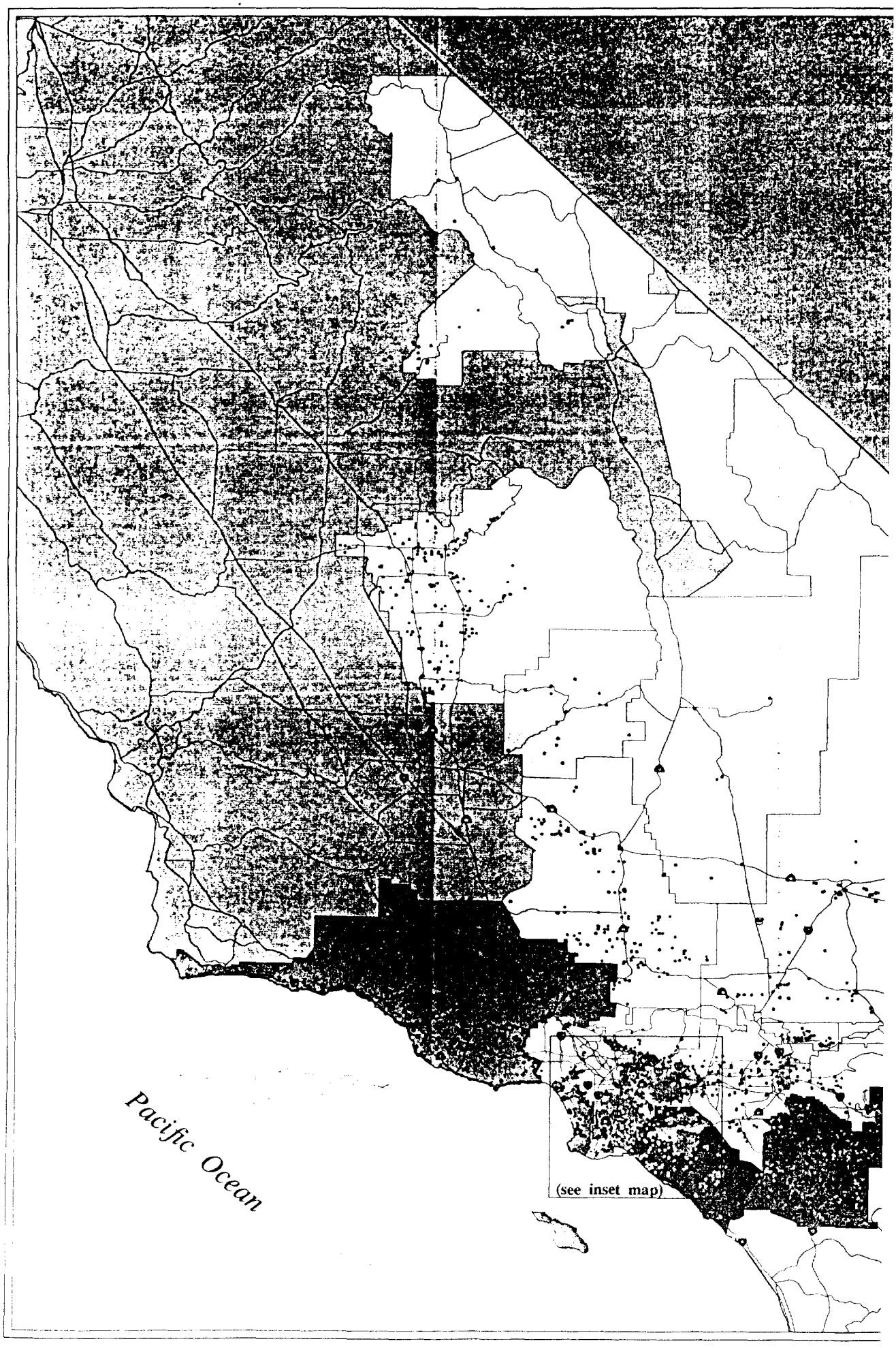
Issued for:
Unit Manager:
Project Manager:
Approved by:
NetComm GIS Laboratory

NetComm - DSFEP
Map Projection: UTM
Checked by:
Map Prepared by: M. Cobb & D. Schirmer
Date: July 05, 1994

Miles

0 6 12 24

NORTH


Pacific Ocean
(see inset map)